IN THE CLAIMS:

Please substitute the following listing of claims for the previous listing of claims.

1. (Currently amended) A method of cleaning a surface of a substrate processing chamber component to remove process deposits therefrom, the method comprising:

(a) heating the surface comprising the process deposits to a temperature of at least about 150°C; and

(b) cooling the surface comprising the process deposits to a temperature below about -40°C by at least one of (i) immersing the surface in liquid nitrogen, and (ii) spraying the surface with the liquid nitrogen,

thereby fracturing the process deposits on the surface.

2. (Original) A method according to claim 1 wherein the surface comprises a first thermal expansion coefficient and the process deposits comprise a second thermal expansion coefficient, and wherein the first thermal expansion coefficient is at least 2 times the second thermal expansion coefficient.

3 - 4. (Canceled)

5. (Currently amended) A method according to claim 1 wherein (b)(i) further comprises ultrasonically agitating the surface.

6. (Original) A method according to claim 1 further comprising at least one of:

(b) grit blasting the surface; or

(c) cleaning the surface with a cleaning solution comprising HF and HNO_3.

7. (Currently amended) A method according to claim 1 further comprising heating the surface to a temperature of at least about ~~150~~ 300°C.

8. (Original) A method according to claim 7 further comprising, after heating the surface, flowing a cool fluid over the surface.

9. (Original) A component cleaned according to the method of claim 1, the component comprising a portion of one or more of an enclosure wall, a chamber shield, a target, a cover ring, a deposition ring, a support ring, an insulator ring, a coil, a coil support, a shutter disk, a clamp shield, and a substrate support; and

wherein the component is substantially absent process deposits.

10. (Original) A method according to claim 1 wherein the surface comprises a textured surface.

11. (Original) A method according to claim 1 wherein the surface comprises at least one of titanium, stainless steel, copper, tantalum and aluminum, and the process deposits comprise at least one of tantalum, tantalum nitride, titanium, titanium nitride, copper, aluminum, tungsten and tungsten nitride.

12-28. (Withdrawn)

29. (new) A method according to claim 1 further comprising heating the surface to a temperature from about 300°C to about 350°C.

30. (new) A method according to claim 1 wherein the surface comprises at least one of copper, titanium, stainless steel and tantalum, and wherein the method comprises heating the surface to a temperature fat least about 500°C.

31. (new) A method according to claim 1 comprising heating the surface to a temperature that does not exceed more than 75% of the melting temperature of the component surface.

32. (new) A method according to claim 1 further comprising heating the surface by temperature placing the component in a heating furnace.

33. (new) A method according to claim 1 comprising cooling the surface at a rate of at least about 50°C per second.

34. (new) A method according to claim 1 further comprising cooling the process deposits on the surface while maintaining the rest of the component at a relatively warmer temperature to increase the difference in the thermal contraction rates of the process deposits and component surface.

35. (new) A method according to claim 1 comprising cooling the surface by spraying or rinsing the process deposits on the surface with the liquid nitrogen while maintaining the bulk of the component at a relatively warmer temperature.

36. (new) A method of cleaning a surface of a substrate processing chamber component to remove process deposits therefrom, the method comprising:

(a) heating the surface comprising the process deposits to a temperature of at least about 150°C; and

(b) cooling the surface comprising the process deposits at a cooling rate of at least about 50°C per second to a temperature below about -40°C by (i) immersing the surface in liquid nitrogen, or (ii) spraying the surface with the liquid nitrogen, thereby fracturing the process deposits on the surface.

37. (new) A method according to claim 36 wherein the surface comprises a first thermal expansion coefficient and the process deposits comprise a second thermal expansion coefficient, and wherein the first thermal expansion coefficient is at least 2 times the second thermal expansion coefficient.

38. (new) A method according to claim 36 wherein (b) (i) further comprises ultrasonically agitating the surface.

39. (new) A method according to claim 36 further comprising at least one of:

(b) grit blasting the surface; or

(c) cleaning the surface with a cleaning solution comprising HF and HNO_3.

40. (new) A method according to claim 36 further comprising heating the surface to a temperature of at least about 300°C.

41. (new) A component cleaned according to the method of claim 36, the component comprising a portion of one or more of an enclosure wall, a chamber shield, a target, a cover ring, a deposition ring, a support ring, an insulator ring, a coil, a coil support, a shutter disk, a clamp shield, and a substrate support; and

wherein the component is substantially absent process deposits.

42. (new) A method according to claim 36 wherein the surface comprises at least one of copper, titanium, stainless steel and tantalum, and wherein the method comprises heating the surface to a temperature of at least about 500°C.

43. (new) A method according to claim 36 comprising heating the surface to a temperature that does not exceed more than 75% of the melting temperature of the component surface.

44. (new) A method according to claim 36 further comprising cooling the process deposits on the surface while maintaining the rest of the component at a relatively warmer temperature to increase the difference in the thermal contraction rates of the process deposits and component surface.

45. (new) A method according to claim 36 comprising cooling the surface by spraying or rinsing the process deposits on the surface with the liquid nitrogen while maintaining the bulk of the component at a relatively warmer temperature.